

### **REMARKS**

Claims 1-11 and 13-30 are pending in this application. For purposes of expedition, claim 12 has been canceled without prejudice or disclaimer. Base claims 10 and 21 have been amended in several particulars for purposes of clarity and brevity that are unrelated to patentability and prior art rejections in accordance with current Office policy, to further and alternatively define Applicants' disclosed invention and to assist the Examiner to expedite compact prosecution of the instant application.

As a preliminary matter, the Examiner notes that the signed declaration fails to identify the inventor's citizenship. In response thereto, a substitute declaration is being prepared and will be submitted upon receipt from the inventor for the Examiner's convenience.

Claim 13 has been objected to under 37 C.F.R. §1.75(c), as being duplicative of claim 12. In response thereto, claim 12 has been canceled without prejudice or disclaimer to overcome the objection.

Independent claims 1, 10 and 21 and their respective dependent claims 11 and 22 have been rejected under 35 U.S.C. §102(b) as being anticipated by Harrison et al., U.S. Patent No. 5,796,727 for reasons stated on pages 3-4 of the Office Action (Paper No. 8). Specifically, in support of the rejection of base claims 1, 10 and 21, the Examiner asserts that Harrison '727 discloses a network architecture and method for WIO applications comprising:

A WLAN comprising a WMC arranged to serve as a WLAN access point (C1, L34-43 and C11, L14-20 teaches a wireless LAN which inherently requires an access point/transceiver and routing hardware/WMC to provide access to a user – the examiner notes that Harrison's disclosure of a WLAN provides for the WAB#46 in figure 2 to be a WMC except that it would provide wireless access);

A GSM network comprising a Mobile Station (MS) in a form of a dual-mode cellular phone to access both WLAN and GSM radio technologies, a BST to convert a mobile radio signal, a MSC arranged to establish call connection (figure 2 and C11, L14-46 – a cellular network inherently has a MSC and BTS); and

A handover module implemented in either the MS or WMC for providing seamless mobility between said GSM network and said wireless LAN, when MS roams between said GSM network and said wireless LAN (C11, L14-46 – handover is either mobile-initiated or system-initiated as is known in the art).

However, the Examiner's assertion is factually incorrect. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection for the following reasons.

First of all, the rule under 35 U.S.C. §102 is well settled that anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. In re Paulsen, 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); In re Spada, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). Those elements must either be inherent or disclosed expressly and must be arranged as in the claim. Richardson v. Suzuki Motor Co., 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989); Constant v. Advanced Micro-Devices, Inc., 848 F.2d 1560, 7 USPQ2d 1057 (Fed. Cir. 1988); Verdegall Bros., Inc. v. Union Oil Co., 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987). The corollary of that rule is that absence from the reference of any claimed element negates anticipation. Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 USPQ2d 81 (Fed. Cir. 1986).

The burden of establishing a basis for denying patentability of a claimed invention rests upon the Examiner. The limitations required by the claims cannot be ignored. See In re Wilson, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). All claim limitations, including those which are functional, must be considered. See In re Oelrich, 666 F.2d 578, 212 USPQ 323 (CCPA 1981). Hence, all words in a claim

must be considered in deciding the patentability of that claim against the prior art. Each word in a claim must be given its proper meaning, as construed by a person skilled in the art. Where required to determine the scope of a recited term, the disclosure may be used. See In re Barr, 444 F.2d 588, 170 USPQ 330 (CCPA 1971).

In the present situation, Harrison '727 does **not** disclose or suggest any network architecture for wireless intranet office (WIO) applications which involves a wireless local area network (LAN) and a global system for mobile communication (GSM) network provided with solutions for providing seamless mobility between the GSM network and the wireless LAN, when a mobile station (MS) in a form of a dual-mode cellular phone roams between the GSM network and the wireless LAN, as defined in Applicants' base claims 1, 10 and 21.

In contrast to Applicants' base claims 1, 10 and 21, Harrison '727 only discloses a cellular LAN-access structure, as shown in FIG. 2, in which mobile computers equipped with modems can obtain various classes of data communication services available, via local area networks (LANs). This way, mobile computers, which use a cellular telephone system, can take part in mainstream client-server computing and also establish wireless LANs.

As shown in FIG. 2, a conventional cellular telephone system is employed, as described on column 2, lines 6-10 of Harrison '727, only for the purposes of the wide-area wireless LAN primarily to provide point-to-point links between mobile computers (PC) 39 or mobile stations (MS) 40. Mobile stations (MS) 40 are also mobile personal computers (PCs) equipped with modems to provide media access control (MAC) and physical (PHYS) layers of the wireless links. However, such mobile stations (MS) 40 can also be any form of mobile or remote data systems,

such as facsimile machines, telemetry systems and so forth. As described on column 10, lines 25-38 of Harrison '727, these mobile PCs 39 and mobile stations (MS) 40 can communicate with another MS 47 in the same service area or another service, or alternatively, communicate with an establish LAN 48 or a wide-area network (WAN) 44.

However, there is absolutely **no** reference to any specific global system for mobile communication (GSM) network in which a mobile station (MS) in a form of a dual-mode cellular phone is used. Certainly, there is **no** disclosure of any network architecture in which a wireless LAN and a global system for mobile communication (GSM) network are provided with solutions for providing seamless mobility between the GSM network and the wireless LAN, when the dual-mode cellular phone can roam seamlessly between the GSM network and the wireless LAN, as expressly defined in Applicants' base claims 1, 10 and 21.

As described on page 1 extending to page 4 of Applicants' disclosure,

**"GSM networks** represent digital cellular networks and personal communications systems which allow one network channel to support multiple conversations using time division multiple access (TDMA) technology...

GSM networks may be used on several different radio bands (also known as the frequency of the network), for example, standard 900 MHz (used mostly in original European GSM networks), 1800 MHz (used mostly in Personal Communications Networks/Digital Communication Systems PCN/DCS in the United Kingdom) and 1900 MHz (used mostly in Personal Communications System PCS in North America). GSM technical standards are provided by the European Telecommunications Standards Institute (ETSI) and can be obtained directly from ETSI via the web site: [www.ETSI.fr](http://www.ETSI.fr).

Each GSM network is comprised of several major portions: a mobile phone, subscriber information, a radio network, a switching system and network intelligence (primarily databases) ...

Many GSM networks support the use of multi-mode, multi-frequency or multi-technology mobile stations that are capable of performing many advanced services. GSM mobile stations may combine many advanced services offered by GSM technology with the latest in computers, displays and other technologies. For example,

multi-frequency GSM phones may allow a single handset to operate (roam) on GSM systems that have different frequencies, for example standard GSM (900 MHz), DCS (1800 MHz) or US PCS (1900MHz). Multi-mode GSM phones may allow the same handset to access different radio technologies including Digital European Cordless Telephones (DECT). Multi-technology GSM phones may allow the handset to access and display different information sources (e.g., Internet web browsing)."

Since there is no seamless mobility between GSM networks and different radio networks such as, for example, wireless local area networks (WLAN), Bluetooth networks or 3G WCDMA radio networks, and there is no way where a mobile station can roam from a GSM network to another radio network automatically and handover from and to another radio network to the GSM network successfully, Applicants' disclosed invention as currently defined in base claims 1, 10 and 21 seeks to provide seamless mobility between a GSM network and a different local radio network, particularly when the local radio network is used in hotspot areas or an area where higher bit rate or high quality of service (QoS) is desirable without having different terminals, devices and numbers.

Despite the fundamental differences between Harrison '727 and Applicants' disclosed invention, the Examiner cites specific portions of Harrison '727 for allegedly disclosing all limitations of Applicants' base claims 1, 10 and 21. However, virtually all cited portions of Harrison '727 do not disclose or suggest what the Examiner alleges.

For example, the cited FIG. 2 and column 11, lines 14-49 of Harrison '727 do not disclose or suggest what the Examiner alleges, that is, "a GSM network comprising a Mobile Station (MS) in a form of a dual-mode cellular phone to access both WLAN and GSM radio technologies, a BST to convert a mobile radio signal, a MSC arranged to establish call connection". Rather, FIG. 2 of Harrison '727 shows

only a cellular LAN-access structure. The cited column 11, lines 14-49 of Harrison '727 refers to case #4 in which the MS 40 (i.e., mobile PC) has a wireless modem capable of operation both as a cellular (outdoor) modem and as a wireless LAN access (indoor) modem, so that the MS cellular modem 40 can operate between the cellular network and the established LAN 48. No GSM network is disclosed, nor dual-mode cellular phone suggested.

Likewise, the same cited column 11, lines 14-49 of Harrison '727 do **not** disclose or suggest any "handover module implemented in either the MS or WMC for providing seamless mobility between said GSM network and said WLAN when MS roams between said GSM network and WLAN" as alleged by the Examiner. Again, the cited column 11, lines 14-49 of Harrison '727 only refers to case #4 in which the MS 40 (i.e., mobile PC) has a wireless modem capable of operation both as a cellular (outdoor) modem and as a wireless LAN access (indoor) modem, so that the MS cellular modem 40 can operate between the cellular network and the established LAN 48. Again, no GSM network is disclosed, nor dual-mode cellular phone suggested by Harrison '727.

In view of these reasons and noted deficiencies inherently associated with Harrison '727, Applicants respectfully request that the rejection of Applicants' claims 1, 10-11 and 21-22 be withdrawn.

Claims 2, 12-13 and 23 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Harrison et al., U.S. Patent No. 5,796,727 as applied to claims 1, 11 and 22 above, and further in view of Andersson et al., U.S. Patent No. 6,230,017 for reasons stated on pages 5-7 of the Office Action (Paper No. 8). As previously discussed, claim 12 has been canceled without prejudice or disclaimer to render its rejection moot. With respect to claims 2, 13 and 23, the Examiner assumes that

Harrison '727 discloses all features of Applicants' base claims 1, 10 and 21, which is incorrect for reasons discussed thereto, and cites Anderson '017, as a secondary reference, for allegedly disclosing,

“a telecommunications network with a MSC/HRL and as the mobile station travels into a location area that is handled by a different mobile switching center, a location update operation must occur so that both the home location register (HLR) and a visitor location register (VLR), typically at the mobile switching center, have appropriate current information about the mobile station and its whereabouts. In this regard, when a mobile station travels into an area having a different location identifier, a forced registration typically occurs. In the forced registration, the home location register (HLR) is updated regarding the particular mobile switching center now serving the mobile station (C1, L35-49).”

In addition, the Examiner also asserts that “IDLE and ACTIVE mode operations are well known in the art and provide means for the cell phones to perform various house-keeping functions and/or support functions at different times, i.e., when either IDLE or ACTIVE.”

However, the Examiner's analysis of Applicants' claims 2, 13 and 23 is flawed and, as a result, the applicable assertions are misplaced. Therefore, Applicants respectfully traverse the rejection for reasons discussed herein below.

Dependent claims 2, 13 and 23 further require that,

“during an IDLE mode when the Mobile Station (MS) roams from said GSM network to said wireless LAN, the Mobile Station (MS) selects a WLAN radio and attempts a location update, via said wireless LAN, and a new location of the Mobile Station (MS) is updated at the Mobile Switching Center (MSC).

In contrast to Applicants' claims 2, 13 and 23, not only Harrison '727 does not disclose all features of Applicants' base claims 1, 10 and 21 for reasons discussed, Andersson '017 does **not** disclose any requirement that, “during an IDLE mode when the Mobile Station (MS) roams from said GSM network to said wireless LAN, the Mobile Station (MS) selects a WLAN radio and attempts a location update, via said

wireless LAN, and a new location of the Mobile Station (MS) is updated at the Mobile Switching Center (MSC)". Rather, Andersson '017 discloses a typical cellular telecommunications network, as shown in FIG. 1A and FIG. 1B, in which a flexible and convenient technique is provided for geographically restricting operations of a mobile station in such a cellular telecommunications network. Andersson '017 does **not** disclose or suggest any technique of operating a mobile station during an IDLE mode or an ACTIVE handover mode between a GSM network and a wireless LAN.

More importantly, the specific requirements of the network architecture during an IDLE mode and an ACTIVE handover mode are novel features of Applicants' disclosed invention in providing seamless mobility between the GSM network and the wireless LAN. As such, the Examiner **cannot** ignore or rely on matters of official notice to support the rejection. See Ex parte Cady, 148 U.S.P.Q. 162 (POBA 1965). Determination of obviousness must be based on facts, not on unsupported generalities. In re Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967); In re Freed, 425 F.2d 785, 165 USPQ 570 (CCPA 1970).

As the Examiner may be aware, in order to establish a *prima facie* case of obviousness under 35 U.S.C. §103, the Examiner must show that the prior art reference (or references when combined) must teach or suggest all the claim limitations, and that there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, provided with a reasonable expectation of success. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and **not** based on Applicants' disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP 2143. In other words, all the claim



limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 USQP 494, 496 (CCPA 1970). Any deficiencies in the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge". See In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002).

In the present situation, both Harrison '727 and Anderson '017 fail to disclose and suggest key features of Applicants' claims 2, 13 and 23. Therefore, Applicants respectfully request that the rejection of claims 2, 13 and 23 be withdrawn.

Claims 3, 5, 7-19, 14, 16, 24, 26 and 28-30 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Harrison et al., U.S. Patent No. 5,796,727 as applied to claims 1, 11 and 22 above, and further in view of Ray, U.S. Patent No. 6,424,638 for reasons stated on pages 7-14 of the Office Action (Paper No. 8). Again, in support of this rejection, the Examiner incorrectly assumes that Harrison '727 discloses all features of Applicants' base claims 1, 10 and 21, which Applicants have shown to be incorrect, and then cites Ray '638, as a secondary reference, for allegedly disclosing,

"a GSM MSC sends a request to the MS via the serving base station asking the MS to change its frequency and transmit a measurement report from the neighboring cell(s) of the new wireless system(s) back to the GSM base station. The GSM base station checks the measurement report for each potential target base station, and selects the best target base station with which to perform the handover (C6, L1-20)."

In addition, the Examiner also asserts that "IDLE and ACTIVE mode operations are well known in the art and provide means for the cell phones to

perform various house-keeping functions and/or support functions at different times, i.e., when either IDLE or ACTIVE.”

As previously discussed, the specific requirements of the network architecture during an IDLE mode and an ACTIVE handover mode are novel features of Applicants’ disclosed invention in providing seamless mobility between the GSM network and the wireless LAN. As such, the Examiner cannot ignore or take official notice to support the rejection. See Ex parte Cady, 148 U.S.P.Q. 162 (POBA 1965).

Moreover, Ray ‘638 does **not** disclose or suggest what the Examiner alleges, that is, the requirement that, “during an ACTIVE handover mode when the Mobile Station (MS) initiates a handover from said GSM network to said wireless LAN, the Mobile Station (MS) measures GSM neighbor cells and reports a WLAN cell as an ordinary GSM cell, enables transmission of a handover request to the Mobile Switching Center (MSC) of said GSM network, until the Mobile Station (MS) is handed over to said wireless LAN”, or alternatively, “when the Mobile Station (MS) initiates a handover from said wireless LAN to said GSM network, the Mobile Station (MS) measures GSM neighbor cells, enables transmission of a handover request to the Mobile Switching Center (MSC), via the Wireless Mobile Center (WMC) of said wireless LAN, until the Mobile Station (MS) is handed over to said GSM network” as expressly defined in Applicants’ claims 3, 5, 7-9, 14, 16, 24, 26 and 28-30.

Rather, Ray ‘638 simply discloses a typical telecommunications network, as shown in FIG. 3, in which an Internet telephony system is incorporated thereto to perform a handover of a call between different types of systems. However, Ray ‘638 does **not** disclose or suggest any technique of operating a mobile station during an IDLE mode or an ACTIVE handover mode between a GSM network and a wireless LAN.

In view of these reasons and noted deficiencies of Harrison '727 and Ray '638, Applicants respectfully request that the rejection of claims 3, 5, 7-9, 14, 16, 24, 26 and 28-30 be withdrawn.

Lastly, claims 4, 6, 15, 17-20, 25 and 27 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Harrison et al., U.S. Patent No. 5,796,727 and Andersson et al., U.S. Patent No. 6,230,017, as applied to claims 1, 11 and 22 above, and further in view of Ray, U.S. Patent No. 6,424,638 for reasons stated on pages 14-20 of the Office Action (Paper No. 8). Again, since the rejection is predicated upon the correctness of the rejection of Applicants' base claims 1, 10 and 21, Applicants respectfully traverse the rejection primarily for the same reasons discussed.

In view of the foregoing amendments, arguments and remarks, all claims are deemed to be allowable and this application is believed to be in condition to be passed to issue. Should any questions remain unresolved, the Examiner is requested to telephone Applicants' attorney at the Washington DC area office at (703) 312-6600.

**INTERVIEW:**

In the interest of expediting prosecution of the present application, Applicants respectfully request that an Examiner interview be scheduled and conducted. In accordance with such interview request, Applicants respectfully request that the Examiner, after review of the present Amendment, contact the undersigned local Washington, D.C. area attorney at the local Washington, D.C. telephone number (703) 312-6600 for scheduling an Examiner interview, or alternatively, refrain from issuing a further action in the above-identified application as the undersigned attorneys will be telephoning the Examiner shortly after the filing date of this

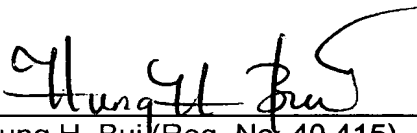
Amendment in order to schedule an Examiner interview. Applicants thank the Examiner in advance for such considerations. In the event that this Amendment, in and of itself, is sufficient to place the application in condition for allowance, no Examiner interview may be necessary.

To the extent necessary, Applicants petition for an extension of time under 37 CFR §1.136. Please charge any shortage of fees due in connection with the filing of this paper, including extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, No. 01-2135 (Application No. 0172.39340X00), and please credit any excess fees to said deposit account.

Respectfully submitted,

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